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Mazdoor Kisan Shakti Sangathan

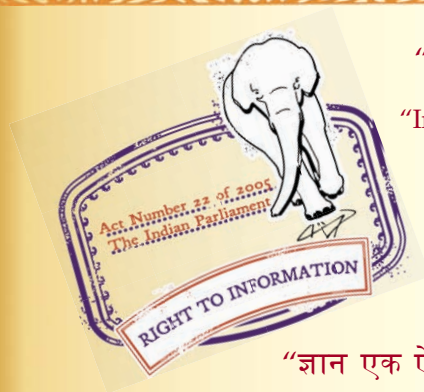
“The Right to Information, The Right to Live”

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Jawaharlal Nehru

“Step Out From the Old to the New”

IS 7854 (1975): Voltage and Frequency for Aircraft
Electrical Systems [TED 14: Aircraft and Space Vehicles]



“ज्ञान से एक नये भारत का निर्माण”

Satyanarayan Gangaram Pitroda

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“ज्ञान एक ऐसा खजाना है जो कभी चुराया नहीं जा सकता है”

Bhartrhari—Nitiśatakam

“Knowledge is such a treasure which cannot be stolen”

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VOLTAGES AND FREQUENCY FOR AIRCRAFT ELECTRICAL SYSTEMS

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VOLTAGES AND FREQUENCY FOR AIRCRAFT ELECTRICAL SYSTEMS

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Indian Standard

VOLTAGES AND FREQUENCY FOR AIRCRAFT ELECTRICAL SYSTEMS

0. F O R E W O R D

0.1 This Indian Standard was adopted by the Indian Standards Institution on 15 November 1975, after the draft finalized by the Aircraft Electrical Equipment Sectional Committee had been approved by the Electrotechnical Division Council.

0.2 During the recent years there has been increasing demand of electrical equipment for use in aircrafts. To provide the necessary guidance regarding technical knowhow and other requirements such as minimum performance requirements consistent with optimum quality and uniform test methods, urgent need has been felt for standardization in this field.

0.3 This standard is based on ISO/R 222-1961 'Voltages for aircraft electrical systems' issued by the International Organization for Standardization.

1. SCOPE

1.1 This standard specifies the voltages and frequency for aircraft electrical systems.

2. DIRECT CURRENT SYSTEMS — GENERAL SERVICES

2.1 The voltages at the aircraft system busbars under stable operating conditions from no-load to full-load shall be within the following limits:

<i>Nominal Voltage</i>	<i>Voltage Range</i>
V	V
28	26-29

2.2 The values indicated below represent the minimum and maximum voltages at the equipment terminals at which equipment normally used under those conditions shall be designed to function correctly:

<i>Nominal Voltage</i>	<i>Voltage Range</i>
V	V
28	23.5-29

NOTE — Equipment shall not be damaged by the continued application of voltages up to 30 V.

2.3 The values indicated below represent the minimum and maximum voltages at the terminals of equipment which, in addition, may be required to function satisfactorily on batteries only; under emergency conditions:

<i>Nominal Voltage</i>	<i>Voltage Range</i>
V	V
28	18-29

3. ALTERNATING CURRENT SYSTEMS — GENERAL SERVICES

3.1 The busbar voltage, phase sequence, frequency and voltage range at the equipment shall be as follows:

<i>Voltage Under Stable Operating Conditions from No-Load to Full-Load</i> V	<i>Phase A.B.C. Positive Phase Sequence N = neutral</i>	<i>Frequency</i> Hz	<i>Voltage Range at Equipment</i> V
115/200 ± 2.5 percent	3-phase (neutral earthed to aircraft structure which forms the fourth wire)	380-420	106-118/185-205

3.2 Equipment operating at voltages and frequencies differing from those of the aircraft supply shall be fitted with suitable transformation devices which have to be considered as integral parts of the equipment itself.

4. SYSTEMS FOR ELECTRICAL STARTING OF ENGINES

4.1 The nominal voltages of systems and equipment provided for electrical starting of engines shall be as follows:

<i>Direct Current</i> V	<i>Alternating Current</i>		
	V	Phase	Hz
28 or 112	200	3-phase	400

4.2 For these systems the range of voltages at the equipment terminals (excluding the starter motor itself) shall be:

	<i>Nominal Voltage</i>	<i>Voltage Range</i>
	V	V
DC	28	18-29
	112	72-114
AC (line to line)	200	185-205

INDIAN STANDARDS
ON
AIRCRAFT ELECTRICAL EQUIPMENT

IS:

- 2032 (Part XV)-1976 Graphical symbols used in electrotechnology: Part XV Aircraft electrical symbols
- 7854-1975 Voltages and frequency for aircraft electrical systems
- 7855-1975 Form of declaration of performance of aircraft electrical equipment
- 7856-1975 Safety features for ground power units for direct current aircraft-servicing and engine-starting
- 7857-1975 Aircraft-fuel nozzle grounding plugs and sockets
- 7915-1975 Dimensions for connections for aircraft ground electrical supplies

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